Design Patterns

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Hall of Fame or Shame?

Southwest.com

Improved southwest.com

Wiimote

By Nintendo
Great at opening up gaming to a wider audience but...

- the main thing that differentiated the product (movement in gaming) resulted in it being thrown at windows/TVs
- slippery plastic hard to hold. Later designs added rubber case & strap
- lack of a joystick was initial problem resulting in a second controller

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Outline

- Detailed Design Example
- Web Design Patterns
- Patterns in the Design Exploration Phase
Basic Web Design

- Let's take a closer look page by page
What site is this?
- Logo in top-left corner denotes the site
- Another name/logo at top-right to reinforce
- Examples of site branding (E1)

What kind of site is this?
- Shopping cart icon
- Tab row categories & left content
- Up-front value proposition (C2)
- Example of personal e-commerce (A1)

What can I do here?
- Sell your stuff
- Tab row / Search on top
- Click on books
- Not great examples of obvious links (K10)

What site am I at?
- Logo in upper-left reinforces brand, can click to go home
- Same font, layout, color scheme also reinforces
- Examples of site branding (E1)
- Prices emphasize I can buy
- Example of personal e-commerce (A1)
Where am I in the site?

- “Home > Books” is LOCATION BREAD CRUMBS (K6)
- “Books” selected in TAB ROW (K3) & SEARCH ACTION MODULE (J1)
- Book cover, “Product Info”, … are cues

Can I trust these sellers?

- Who am I buying from?
- Are they reputable?
- aside: what do stars mean?
- What about shipping?
- used to show total price!

The Fold

- Hmm, what's below here?

• What site am I at?
  - Logo in upper-left
  - Colors, layout, font
  - examples of SITE BRANDING (E1)
• Where am I in the site?
  – Last button clicked was “Add to cart!”
  – “Shopping Cart” & “Proceed to Checkout” reinforce this is “the right page”
  – SHOPPING CART (F3)

• Cross-selling
  – Possibly a pleasant surprise
  – Impulse buy
  – CROSS-SELLING & UP-SELLING (G2)

• What am I going to buy?
  – Easy to remove & save for later
  – How much will it cost?
  – Shipping costs there, no surprises
  – SHOPPING CART (F3)

• What can I do (they want me to do)?
  – “Proceed to Checkout”
  – HIGH VISIBILITY ACTION BUTTON (K5)
  – visually distinct, 3D, looks clickable
  – large

• What if I don’t have a User ID?
  • What if I forgot my password?
  • SIGN-IN/NEW ACCOUNT (H2)
• What site?
  – Logo, layout, color, fonts
  – Where in site?
  – Checkout, step 1 of 3
  – “Choose a shipping address”
  – QUICK-FLOW CHECKOUT (F1)

• Note what’s different (?)
  – No tab rows
  – No impulse buys
  – Only navigation on page takes you to next step
  – This is a PROCESS FUNNEL (H1)
  – Extraneous info and links removed to focus customers

• Last step of process
  – Step 3, “Place Order”
  – “Place my order” button
  – TWO HIGH-VISIBILITY ACTION BUTTONS (K5) for fold
Design = Solutions

- Design is about finding solutions
- Unfortunately, designers often reinvent
  - Hard to know how things were done before
  - Why things were done a certain way
  - How to reuse solutions

Design Patterns

Communicate common design problems & solutions
- First used in architecture [Alexander]
- Ex. How to create a beer hall where people socialize?
- Ex. Beer hall is part of a center for public life…
- Ex. Beer hall needs spaces for groups to be alone…
  - ALCOVES

Using Design Patterns

- Not too general and not too specific
  - use a solution “a million times over, without ever doing it the same way twice”
- Design patterns are a shared language
  - for “building and planning towns, neighborhoods, houses, gardens, & rooms.”
  - Ex. Beer hall is part of a center for public life…
  - Ex. Beer hall needs spaces for groups to be alone…
  - ALCOVES
A Web of Design Patterns

Mosaic of Subcultures

(8) Promenade

(31) Night Life

(90) Beer Hall

(95) Building Complex

(179) Alcoves

(181) The Fire

Web Design Patterns

- Also used in UI design
- Communicate design problems & solutions
  - how to create navigation bars for finding relevant content...
  - how to create a shopping cart that supports check out...
  - how to make e-commerce sites where people return & buy...

NAVIGATION BAR (K2)

Problem: Customers need a structured, organized way of finding the most important parts of your Web site

Solution diagram
- captures essence on how to solve problem

Pattern Groups

Our patterns organized by group

- Site genres
- Navigational framework
- Home page
- Content management
- Trust and credibility
- Basic e-commerce
- Advanced e-commerce
- Completing tasks
- Page layouts
- Search
- Page-level navigation
- Speed
- The mobile web

PROCESS FUNNEL (H1)

Problem: Need a way to help people complete highly specific stepwise tasks
- Ex. Create a new account
- Ex. Fill out survey forms
- Ex. Check out
PROCESS FUNNEL (H1)

Problem: What if users need extra help?

- What’s different?
  - No tab rows
  - No impulse buys
  - Only navigation on page takes you to next step

- What’s the same?
  - Logo, layout, color, fonts
Patterns Support Creativity

- Patterns come from successful examples
  - sites that are so successful that lots of users are familiar with their paradigms (e.g., Google, Amazon, Yahoo, Facebook...)
  - interaction techniques/metaphors that work well across many sites (e.g., shopping carts)
- Not too general & not too specific
  - you need to specialize to your needs
- Patterns let you focus on the hard, unique problems to your design situation
  - every real design will have many of these

Patterns Offer the Best of Principles, Guidelines & Templates

- Patterns help you get the details right, without over-constraining your solution
  - unlike principles, patterns not too general, so can see how to apply to your situation
  - unlike guidelines, patterns discuss tradeoffs, show good examples & tie to other patterns
  - unlike style guides, patterns not too specific, so can still be specialized
  - unlike page templates, patterns illustrate flows among different pages
- Patterns can serve as documentation for teams
- Often used along with or as part of design systems

Administrivia

- Project Questions?
- Project Fair Questions?
TEAM BREAK

WORK ON FINAL DELIVERABLES
1. POSTERS
2. PITCH SLIDES
3. REPORT

Patterns in Exploration Phase
• Use Exploration-level patterns to design overall structure
  – different choices will give radically different designs
• For example, how to organize information
  – HIERARCHICAL ORGANIZATION (B3)
  – TASK-BASED ORGANIZATION (B4)
  – ALPHABETICAL ORGANIZATION (B5)
  – …

Design Exploration Example
• John given the task of designing a new subsite for showing maps to businesses
  – listings found by typing in address
  – key feature: show nearby businesses
• John comes up with two design sketches
  – Design #1 uses ALPHABETICAL ORGANIZATION (B5) for list of all nearby businesses
  – Design #2 uses TASK-BASED ORGANIZATION (B4) for list of related nearby businesses

Web Design Process

Patterns in Exploration Phase
TASK-BASED ORGANIZATION (B4): Link the completion of one group of tasks to the beginning of the next related task(s)
Design #2 – Revision 1

Evaluating Which Design to Choose

- **Low-fidelity Usability Test**
  - sketches the rest of the key screens on paper
  - brings in 5 participants to his office
  - asks each to carry out 3 tasks while John’s colleague Sam “plays computer”
  - John observes how they perform

- **Tasks**
  - look up 1645 Solano Ave., Berkeley CA
  - look up 1700 California Ave, San Francisco CA & find Tadich Grill
  - look up 2106 N 55th St, Seattle WA & find a Sushi restaurant nearby

Results with Design #2 (Task-based)

- Task 1: look up 1645 Solano Ave
  - no difficulties encountered – warm-up task!

- Task 2: look up 1700 California & find Tadich Grill
  - 1 user took awhile to figure out that Tadich Grill was a restaurant & to click on the “Restaurants” link
  - all others found it in 2 clicks (Restaurants > Tadich Grill)

- Task 3: look up 2106 55th St & find nearby Sushi restaurant
  - 3 found “Kisaku” in 2 clicks
  - 2 others asked for a listing of Japanese restaurants

General comments

- 2 users said they often want to email/SMS maps to friends who they will be meeting (task-based)
- 3 users wanted driving directions (task-based)

→ TASK-BASED ORGANIZATION (B4) worked better, but still had some minor problems
Summary

• Lots of issues involved in designing compelling, usable web sites
• Design patterns are one way of capturing good design knowledge
  - generative (help you create new designs)
  - consider trade-offs
  - concrete examples of successful uses
  - a networked language that works together

Further Reading

Books on Web Design

• The Design of Sites. Doug Van Duyne, James Landay, Jason Hong. Addison-Wesley. 2nd edition. 2007. [at this point out of date]
• Information Architecture for the Web and Beyond. Louis Rosenfeld, Peter Morville, Jorge Arango. O’Reilly. 4th edition. 2015
• Don’t Make Me Think!, Revisited. Steven Krug. Que. 3rd edition. 2014.

Further Reading

Websites on Web Design

• UsableWeb.com, links to other usability sites
• Usability.gov, for building accessible websites & more
• User Interface Engineering, at http://www.uie.com
• Mark Hurst’s creativegood.com
• Jakob Nielsen’s www.nngroup.com

Next Time

• Wed
  - Smart Interfaces for Human-Centered AI – my research
  - Team Work on Project
• Fri
  - Project Expo